

Effects to Fisheries

Summary

The proposed harvest and associated activities would not affect federally listed bull trout due to the very limited presence of bull trout in the Marble Creek drainage. The proposed harvest and associated projects may affect, but are not likely to adversely affect designated bull trout critical habitat due to the potential for sediment generated in the tributaries reaching Marble Creek. The in-stream restoration of Marble Creek would have short term negative impacts causing a “may affect, likely to adversely affect” determination to critical habitat, although there would be long term beneficial effects to critical habitat. The proposed project may impact westslope cutthroat trout individuals or habitat present in all fish bearing streams of the project area, but will not likely contribute to a trend toward federal listing. The proposed project may impact western pearlshell mussels, due to their reliance on westslope cutthroat trout as a host for part of their life cycle, but it would not contribute to a trend toward federal listing. The proposed project would increase stream connectivity due to the replacement of a barrier culvert in Shearer Creek. The implementation of this project contributes to Forest Plan goals by increasing the diversity of habitat in Marble Creek (AQH-010) and by increasing connectivity in Shearer Creek (AQH-02). Project file document FISH-31 provides documentation of compliance with the Forest Plan.

Analysis

This analysis looks at how the existing condition could be affected by the proposed action. The quality of fish habitat is influenced by a variety of elements (USFWS 1998). At a broad scale, the Forest Plan describes the conditions of the habitat elements that would meet the desired condition for aquatic habitat. Surveys, monitoring data, and recent observations provided a refined description of existing conditions. Existing conditions are rated by how closely the existing characteristics meet the desired conditions (PF_FISH). The analysis describes how the proposed actions would affect the habitat elements (resource indicators). This analysis specifically considers the following resource indicators:

- connectivity of fish habitat;
- aquatic habitat quality (based on FP definitions) trend;
- determinations for listed species, critical habitat and sensitive species

The cumulative effects analysis area is the Marble Creek drainage from the confluence of Homestead to the confluence of Marble Creek and St. Joe River. This area encompasses all drainages which contain project actions. Effects will also be discussed for fish bearing streams, within the project area, that contribute to Marble Creek.

Proposed Action

Barrier Culvert replacement: The replacement of a barrier culvert on Shearer Creek at Road 321 with an aquatic passage culvert would increase the amount of connected habitat within Shearer Creek by 0.8 miles.

The replacement of the culvert would have no effect to bull trout because they are not present in Shearer Creek or in Marble Creek. There would be no effect to bull trout critical habitat because Shearer Creek is not critical habitat and research has shown the sediment generated during culvert replacements returns to upstream status approximately 800 m downstream of the work (Foltz, 2007). Marble Creek, which is bull

trout critical habitat, is approximately 1000 m downstream of the work and therefore would not be affected.

In the long term the replacement of the culvert would benefit westslope cutthroat trout but because of disturbance there could be short term negative effects.

Instream restoration: In the long term the increase in habitat diversity and complexity would improve the quality of aquatic habitat within Marble Creek. During construction the project would negatively affect the quality of habitat by suspending sediment in the water column and by disturbing and possibly crushing some individuals of the aquatic species that are present.

The project would have no effect on bull trout because the only recent detection of bull trout is about 7 miles downstream. In the long term this activity would benefit bull trout critical habitat because it would increase habitat diversity. In the short term the activity would have an adverse effect on critical habitat due to the disturbance to streambed and banks.

Westslope cutthroat trout and their habitat in Marble Creek would be affected in the short term but the effect would not likely contribute to a trend toward federal listing and the project would be beneficial to the species in the long term.

Proposed actions which could contribute sediment: The other proposed activities (harvest, road construction, road decommission, road storage, quarry development and rock (PF-???) would individually have no direct effect to the fisheries resource indicators but could have an indirect effects therefore potentially could contribute to produce a cumulative effect.

Whitebark pine treatment and revegetation activities would have no effect and would not contribute to a cumulative effect to the fisheries resource indicators.

Gopher baiting is unlikely to have a negative effect on the fisheries indicators due to the use of proper baiting techniques (St. Joe monitoring 2002) but it is not completely discountable that effects could occur.

Cumulative Effects of the Proposed Action

Shearer Creek

Aquatic Habitat Quality Trend: The trend for aquatic habitat quality should remain in the current status.

The replacement of the barrier culvert with a culvert that is properly installed and sized for the 100 year flow, would in the long term improve flow conditions and would connect segments of spawning and rearing habitat. The replacement would cause a short-term increase in sediment to Shearer Creek. The use of BMPs would reduce potential negative effects. A culvert on a non-fish bearing tributary to Shearer Creek is currently contributing sediment to Shearer Creek but this would be mitigated during road maintenance for this project.

The new road, NC2, includes one stream crossing of a non-fish bearing stream. The crossing is over 1100 meters from the fish bearing section of Shearer Creek therefore the sediment generated from the installation of the culvert should not reach the fish bearing section at an elevated rate (Foltz, 2007). Neither the temporary road construction nor the road decommissioning cross streams therefore there should be no sediment reaching a fish bearing stream. The proposed regeneration harvest is about 29% of the drainage but the buffers should protect the stream habitat.

The existing good condition of the aquatic habitat in Shearer Creek combined with the implementation of riparian zone buffers and BMPs should limit the amount of sediment generated from the proposed activities.

Westslope Cutthroat trout determination: There is potential for the project to have both positive (improved access) and very minor potential for negative impacts (sediment should not reach stream) on individual westslope cutthroat trout in Shearer Creek. Therefore, this project may impact individual westslope cutthroat trout or habitat in Shearer Creek, but will not likely contribute to a trend toward federal listing.

Davies Creek

Aquatic Habitat Quality Trend: The trend for aquatic habitat quality should remain in the current status.

The culvert removals are on roads proposed for decommissioning are over 2400 meters from a fish bearing stream. The use of BMPs and intact buffers would reduce sediment increases from these activities. The minor amount of timber harvest (6% of the drainage) should have no impacts to stream habitat. The current condition of the aquatic habitat would be able to incorporate the immeasurable amount of sediment that might be produced without causing a negative trend to the aquatic habitat quality.

Westslope Cutthroat trout determination: There would be a slight potential for sediment to be generated and a slight potential for the sediment to reach a fish bearing stream therefore, this project may impact individual westslope cutthroat trout or habitat in Davies Creek, but will not likely contribute to a trend toward federal listing.

Little Daveggio Creek

Aquatic Habitat Quality Trend: The trend for aquatic habitat quality should remain in the current status.

Approximately three culverts would be removed during road storage or road decommissioning projects, none of these would occur on fish bearing streams. This activity would be beneficial in the long term by reducing risk of culvert failure but in the short term would generate some sediment. Only one of the culverts is within 810 meters of a fish bearing stream, therefore the majority of the sediment should settle out before reaching fish habitat.

The proposed harvest (58 acres) would have no effect on aquatic habitat. Approximately 5% of the drainage is in non-Forest Service managed lands. This land is at the confluence with Daveggio Creek, has been harvested and future harvest is likely to occur in a similar manner as what occurred in the past (PF, FISH-026). Harvest on private lands must adhere to Idaho State Best Management Practices regarding stream protection buffers and road construction and maintenance. The reestablishment of a quarry on FS road 1914 would not affect stream habitat because it is not near any streams. The current good condition of Little Daveggio Creek would be able to incorporate the immeasurable amount of sediment that might be produced without causing a negative trend to the aquatic habitat quality.

Westslope Cutthroat trout determination: There would be a slight potential for sediment to be generated and a slight potential for the sediment to reach a fish bearing stream therefore, this project may impact individual westslope cutthroat trout or habitat in Little Daveggio Creek, but will not likely contribute to a trend toward federal listing.

Daveggio Creek

Connectivity: There are no barriers to fish passage on Daveggio Creek. Remnants of an old splash dam are present in Daveggio Creek downstream of the confluence with Little Daveggio Creek but it does not

preclude fish passage. There would be no change to habitat connectivity following implementation of this project.

Aquatic Habitat Quality Trend: Aquatic habitat quality should remain in the current status.

There are about three culverts that would be removed during road decommissioning two are within 800 meters of a fish bearing stream therefore there is a potential for a short term pulse of sediment to reach a fish bearing stream. Timber harvest is very minor and should not impact fish habitat. Non-Forest Service managed land comprises approximately 37 percent of the Daveggio Creek drainage (excluding Little Daveggio). This land has been harvested in the recent past and future harvest is likely to occur in a similar manner as what occurred in the past (PF, FISH-026). Harvest on private lands must adhere to Idaho State Best Management Practices regarding stream protection buffers and road construction and maintenance. The current fair/good condition of Daveggio Creek would be able to incorporate the immeasurable amount of sediment that might be produced by projects on non-NFS lands and this project without causing a negative trend to the aquatic habitat quality.

Westslope Cutthroat trout determination: There would be a slight potential for sediment to be generated and a slight potential for the sediment to reach a fish bearing stream therefore, this project may impact individual westslope cutthroat trout or habitat in Daveggio Creek, but will not likely contribute to a trend toward federal listing.

Homestead Creek

Aquatic Habitat Quality Trend: The trend for aquatic habitat quality should remain in the current status.

Culvert removal would be beneficial in the long term because of the reduced risk of culvert failure but in the short term it could generate some sediment. Only two of the 25 culverts are within 810 meters of a fish bearing stream. There would be 7.5 miles of non-system road retained which have approximately 17 culverts. These roads and culverts would continue to present a risk of failure and potentially contribute sediment to non-fish bearing streams. The very minor amount of harvest (<1% of the drainage) would have no influence on the stream habitat. The current good condition of Homestead Creek would be able to incorporate the immeasurable amount of sediment that might be produced without causing a negative trend to the aquatic habitat quality.

Westslope Cutthroat trout determination: There would be a potential for sediment to be generated and a slight potential for the sediment to reach a fish bearing stream therefore, this project may impact individual westslope cutthroat trout or habitat in Homestead Creek, but will not likely contribute to a trend toward federal listing.

Bull trout and bull trout critical habitat determination: Bull trout are not present in Homestead Creek, therefore there would be no effect to individuals or the population. Bull trout critical habitat is designated in the lower 1.6 miles of Homestead Creek. The very limited amount of activity combined with the use of BMPs and the beneficial long term effects of culvert removals may affect but is not likely to adversely affect bull trout critical habitat.

Marble Creek

Connectivity: There are no human created migration barriers in Marble Creek. Splash dams that once created barriers have deteriorated and are now passable. There would be no new road construction that crosses Marble Creek therefore there would be no change to the amount of connected habitat.

Aquatic Habitat Quality Trend: The combination of all activities would create a short term downward trend but a long term improving trend.

Culvert removal would be beneficial in the long term because of the reduced risk of culvert failure but in the short term it could generate some sediment. Only one of the 5 culverts are within 810 meters of a fish bearing stream. New road construction includes four crossings of non-fish streams. The location of these crossings, over 810 meters from Marble Creek, prevents impacts to Marble. Proposed harvest is approximately 25% of the acres of Marble Creek face drainages (non-fish streams) in the project area. There is potential harvest on non-Forest Service managed lands (40 acre in a Marble Creek face drainage). Harvest on private lands must adhere to Idaho State Best Management Practices regarding stream protection buffers and road construction and maintenance. The use of BMPs on Forest Service and private lands and the current fair to poor condition of Marble Creek, primarily due to lack of habitat diversity, would allow the stream conditions to incorporate the minor combined amount of sediment that might be produced by this proposed action without causing a further negative trend to the aquatic habitat quality. The addition of the instream restoration would create short term negative increases in sediment that might settle into the existing limited pool habitat and cause of short term downward trend but would in the long term the instream restoration would increase habitat diversity thus there would be an upward trend for aquatic habitat quality.

Westslope Cutthroat trout determination: In the long term there would be a benefit to the species and habitat due to the increased diversity and complexity of the habitat. In the short term there would be a potential for sediment to be generated and for that sediment to have a minor effect to the fish habitat of Marble Creek therefore, this project may impact individual westslope cutthroat trout or habitat in Marble Creek, but will not likely contribute to a trend toward federal listing.

Bull trout and bull trout critical habitat determination: Bull trout have only been identified twice in Marble Creek since about 2000 and these occurrences were within the lowest two miles of Marble Creek. The project area is approximately 7 miles upstream from the furthest upstream detection. Due to the lack on detection near the project area there would be no effect to individuals or the population. Bull trout critical habitat is designated for the entire length of Marble Creek. The implementation of the proposed harvest and associated actions would have a May effect, not likely to adversely affect bull trout critical habitat in Marble Creek due to the low potential for a small amount of sediment that could be generated reaching Marble Creek.